COSEWIC
Status Appraisal Summary

on the

Blue Racer
Coluber constrictor foxii

in Canada

ENDANGERED
2012

COSEWIC
Committee on the Status
of Endangered Wildlife
in Canada

COSEPAC
Comité sur la situation
des espèces en péril
au Canada

COSEWIC status appraisal summaries are working documents used in assigning the status of wildlife species suspected of being at risk in Canada. This document may be cited as follows:

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COSEWIC
Assessment Summary

Assessment Summary – May 2012

Common name
Blue Racer

Scientific name
Coluber constrictor foxii

Status
Endangered

Reason for designation
This large snake has an extremely restricted distribution and in Canada occurs only on Pelee Island in southern Ontario. Despite efforts to protect dwindling habitat, it remains at low numbers. Threats include loss and fragmentation of habitat, increased road mortality and persecution.

Occurrence
Ontario

Status history
Designated Endangered in April 1991. Status re-examined and confirmed in May 2002 and May 2012.

COSEWIC
Status Appraisal Summary

Coluber constrictor foxii
Blue Racer — Couleuvre agile bleue
Range of Occurrence in Canada: Ontario

Current COSEWIC Assessment: Endangered

Status category:
☐ XT ☒ E ☐ T ☐ SC

Date of last assessment: 2002
Reason for designation at last assessment:
The snake is almost certainly extirpated from mainland Ontario and Blue Racers are now found only in the eastern two-thirds of Pelee Island. Continued development for cottages, residences and other structures, and an increase in vehicular traffic further reduce and fragment the amount of suitable habitat remaining.

New reason for designation (only if different from above):
This large snake has an extremely restricted distribution and in Canada occurs only on Pelee Island in southern Ontario. Despite efforts to protect dwindling habitat, it remains at low numbers. Threats include loss and fragmentation of habitat, increased road mortality and persecution.

Criteria applied at last assessment:
B2ab(iii); C2a(i); D1

If earlier version of criteria was applied[1], provide correspondence to current criteria:
Not applicable

If different criteria are proposed based on new information, provide explanation:
B1, B2ab(iii,v); C2a(i, ii); D1

B1 ab(iii,v), B2ab(v), and C2aii also apply because there is inferred decline in number of adults and 95% of the population is in one location.

If application of current specific criteria is not possible, provide explanation. Not applicable.

Recommendation: Update to the status report NOT required (wildlife species' status category remains unchanged)
Reason:
☐ sufficient information to conclude there has been no change in status category
☒ not enough additional information available to warrant a fully updated status report

Evidence (indicate as applicable):

Sites of recent Blue Racer observations on Pelee Island do not differ from those collected prior to the 2002 assessment, though no formal population studies have been conducted (Oldham pers. comm.

[1] An earlier version of the quantitative criteria was used by COSEWIC from October 1999 to May 2001 and is available on the COSEWIC website: http://www.cosewic.gc.ca/eng/sct0/original_criteria_e.cfm

2011; Willson pers. comm. 2011; Woodliffe pers. comm. 2011). No mainland records have been confirmed since 1983 (COSEWIC 2002; Parks Canada 2010), and there is no evidence suggesting the species persists on the mainland (Woodliffe pers. comm. 2011).

Wildlife species:

Change in eligibility, taxonomy or designatable units: yes ☐ no ☒

Explanation:

No changes in eligibility are warranted based on current knowledge of the species and COSEWIC criteria. Burbrink *et al.* (2008) studied the phylogeography of *Coluber constrict*or using the mtDNA cytochrome b gene, and mapped Ontario racers as belonging to a central clade which has a much larger range than is traditionally attributed to subspecies *foxii*. However, no Ontario snakes were actually sampled. Burbrink *et al.* (2008) proposed no taxonomic changes, but suggested that *C. constrictor* may not be a single taxon, particularly because several lineages are well defined geographically and are of ancient origin. At this time, there is no agreed upon new name for the Blue Racer. In any case, putative changes in nomenclature will have no assessment significance for Ontario racers as they are clearly a single DU. The subspecific status of the snake in Canada remains unchanged as *Coluber constrictor foxii* (Crother *et al.* 2008), although there have been debates about the validity of this taxon (Ernst and Ernst 2003).

Range:

Change in Extent of Occurrence (EO): yes ☐ no ☒
Change in Area of Occupancy (AO): yes ☐ no ☒
Change in number of known or inferred current locations: yes ☐ no ☒
Significant new survey information yes ☐ no ☒

Explanation:

In Canada, all records of this species since 1983 have been confined to Pelee Island in Lake Erie (Figure 1). The majority of records continue to be from the eastern half of the island, with only a small number of credible observations extending into the western portion of the island (MacKinnon and Porchuk 2006; Oldham pers. comm. 2011; Willson pers. comm. 2011; Woodliffe pers. comm. 2011). Records from the western portion of the island are likely limited to animals moving during peak summer dispersal, as no active hibernacula are known from the western portion of the island (Willson pers. comm. 2011). No noteworthy differences in EO or AO and no new known or inferred locations exist. The current values of EO and IAO are less than in the previous report because of differences in estimating these values not because they have actually decreased. No significant new survey information has been collected since the 2002 COSEWIC assessment (MacKinnon and Porchuk 2006; Willson pers. comm. 2011; Woodliffe pers. comm. 2011).

Population Information:

Change in number of mature individuals: yes ☒ no ☐
Change in total population trend: yes ☐ no ☒
Change in severity of population fragmentation: yes ☐ no ☒
Change in trend in area and/or quality of habitat: yes ☒ no ☐
Significant new survey information yes ☐ no ☒

Explanation:

Mark-recapture data from 1993-1995 were incorporated into a Jolly-Seber population model and generated a population size estimate of 307 adults (95% CI = 129 – 659) for 1994 (Porchuk 1996). Another 3-year (2000-2002) mark-recapture study using a more systematic sampling design and Jolly Seber generated population size estimates of 140.7 ± 73.47 (95% CI = 59.0 – 284.7) and 78.5 ± 36.31 (95% CI = 49.0 – 149.6) adult/juvenile blue racers for three of the sites and the most productive site respectively (Willson 2002; MacKinnon and Porchuk 2006). Comparisons of the body size distributions generated from this survey and the 1993 to 1995 study indicate that the average size of blue racers available to be sampled decreased (Willson 2002). Although no formal surveys have been conducted since 2002 (Willson pers. comm. 2011; Woodliffe pers. comm. 2011), there is some reason to be concerned that changes in population structure and size and increased fragmentation of populations and habitat have occurred on Pelee Island (MacKinnon and Porchuk 2006; Willson pers. comm. 2011; Woodliffe pers. comm. 2011). Increasing road traffic, introduction of Wild Turkeys (*Meleagris gallopavo*), which depredate snakes, increased development and, possibly, persecution by humans since the last assessment, suggest the possibility that the number of mature individuals has declined. There have been 11 'informal' annual surveys from 2000 to 2009 organized by Scales Nature Park/Sciensational Sssnakes!! staff that suggest further that numbers may have declined since the 2002 COSEWIC report. During these surveys, only very small numbers of racers were found at previously known sites, and three additional searches in 2010 (1) and 2011 (2) resulted in no observations. No racers have been located at the Stone Road Alvar site since 2001 (J. Hathaway pers. comm. 2011). Since 2002, a number of sites on the island have been purchased by conservation organizations and now receive some level of protection (MacKinnon and Porchuk 2006; McFarlane pers. comm. 2011; Porchuk pers. comm. 2011; Willson pers. comm. 2011; Woodliffe pers. comm. 2011). The acquisition of these properties from 2000 to 2010 should result in improvements to the quality of these areas over time. In areas not currently utilized by the species, it is hoped that future emigration into these areas will occur (MacKinnon and Porchuk 2006). These changes may have led to a modest increase in numbers of mature snakes, but no quantitative assessments of population abundance have been made since the acquisition of Nature Conservancy of Canada (NCC) lands. Given the reasonable certainty that the number of adult snakes has declined, it is likely that their numbers remain below 250.

Threats:

Change in nature and/or severity of threats: yes ☒ no ☐

Explanation:

Some new threats or changes in severity of existing threats have been noted since the last assessment. Threats still include loss and fragmentation of habitat, especially with increasing demands for economic development related to tourism on the island (MacKinnon and Porchuk 2006). New development projects on the island will likely result in increased road mortality and loss of habitat (MacKinnon and Porchuk 2006; Gould pers. comm. 2011;). Loss of habitat due to vegetative succession is currently threatening some areas of existing Blue Racer habitat on the island. Prescribed burns to control succession, as well as brush fires set by residents, may slow succession; however, such practices can potentially harm racers if not done appropriately. Fires set from April to October can result in snake mortality, and those set in September and October can also result in loss of cover and prey species late in the season, or early the next season. Such events can leave racers vulnerable to predation and without adequate energy reserves prior to and following hibernation (MacKinnon and Porchuk 2006; Woodliffe pers. comm. 2011). Introductions of Wild Turkeys (*Meleagris gallopavo*) in 2002 may pose a new predation risk to snakes on the island (MacKinnon and Porchuk 2006).

Protection:

Change in effective protection: yes ☒ no ☐

Explanation:

The Ontario *Endangered Species Act, 2007* (ESA) came into force in June 2008, replacing the previous *Endangered Species Act*. Blue Racer retains the status of Endangered under the new act.

Since 1999, the Nature Conservancy of Canada (NCC) has purchased properties on Pelee Island, totalling over 400 ha. These sites include areas where Blue Racers are known to persist, adjacent habitat, and areas on the west side of the island that may provide future habitat. The protection offered by these recent purchases could be key to maintenance of the species in Canada, especially when combined with habitat already protected on the island (MacKinnon and Porchuk 2006; McFarlane pers. comm. 2011; Porchuk pers. comm. 2011; Willson pers. comm. 2011; Woodliffe pers. comm.). A brief summary of recent purchases by NCC follows (as quoted from correspondence with Mhairi McFarlane):

1. Florian Diamante Nature Reserve (FDNR) 184.5 ha, acquired 2007.
2. Middle Point Woods acquired 2010, 33.10 ha
3. Stone Road Alvar 117.4 ha + 1999, 2006, 2010.
4. Richard and Beryl Ivey property 51 ha, 2006, 2008.

Rescue Effect:

Evidence of rescue effect: yes ☐ no ☒

Explanation:

Based on the natural life history of the species and current geography of the island, immigration from sites beyond Pelee Island is unlikely. Reintroduction of Blue Racers to Ontario mainland sites has a low likelihood of success (MacKinnon and Porchuk 2006). Hecnar and Hecnar (2005) investigated the feasibility of reintroducing Blue Racers to Point Pelee National Park. They concluded that sufficient habitat was not available and that reasons for initial extirpation from the park were unknown.

Quantitative Analysis:

Change in estimated probability of extirpation: yes ☐ no ☒

Details: No quantitative analyses are available.

Summary and Additional Considerations: [e.g., recovery efforts]

The draft Recovery Strategy was completed in 2006 by MacKinnon and Porchuk. A small amount (about 50 ha) of additional habitat has been established on the heavily disturbed western part of the island, on two to three private properties. Prime habitat on the eastern portion of the island has been secured by various conservation organizations, most notably the Nature Conservancy of Canada. With the recent economic downturn, some areas of the island slated for development have instead been left to regenerate for the time being, thus providing additional temporary habitat for Blue Racers. Some of these areas may still be developed, though at this time they are available to racers. Court proceedings related to Blue Racer habitat have been settled, and with that settlement, some racer habitat has been secured, including important seasonal habitat and corridors between protected sites. Within these newly secured properties, a total of seven each of hibernacula, hot rock/basking piles, brush piles and wood chip/egg laying piles were established in 2009 and 2010 for a total of 28 new habitat features. Although none appear to have been used yet, it is expected that at least some will become functional as racers discover them. The Pelee Island Official Plan was approved in Sept. 2011 and identifies areas of endangered species' habitat as well as areas that are currently zoned for development but might have important habitat, and thus will be reviewed before development takes place. Such review and protection may protect areas of important habitat as well as prevent inadvertent or intentional habitat destruction. The new ESA assists in raising awareness, as well as providing tools to evaluate habitat, and provides a permitting process to allow development to some extent, as long as approved mitigation/compensation is in place. Some island residents are interested in reporting sightings of racers, potentially leading to stronger relationships between landowners and those working to conserve the species. Although a number of positive steps have been taken, threats to the species persist, and increased road traffic, economic development and/or sustained or increased intentional and unintentional mortality could quickly diminish current recovery efforts (MacKinnon and Porchuk 2006; Gould pers. comm. 2011; McFarlane pers. comm. 2011; Porchuk pers. comm. 2011; Willson pers. comm. 2011; Woodliffe pers. comm. 2011).

Consultations:

The following individuals were contacted via email.

*Denotes that information was provided by authority contacted.

*Burke, Dawn. August 2011. Co-chair Blue Racer Recovery Team, Ecologist, OMNR, London, ON.

*Brooks, Ronald. 2011-2012. Blue Racer Recovery Team, Professor Emeritus, University of Guelph, Guelph, ON.

Crowley, Joe. August 2011. Herpetology Species at Risk Specialist, Species at Risk Branch, OMNR, Peterborough, ON. (no response)

*Gould, Ron. August 2011. Species At Risk Biologist, OMNR Aylmer District, Aylmer, ON.

Hathaway, Jeff. September 2011. Sciensational Snakes (has conducted multiple snake surveys on Pelee Island), Orillia, ON.

McCarter, Jennifer. August 2011. Herpetology Specialist, Nature Conservancy of Canada, Guelph, ON.

*McFarlane, Mhairi. August 2011. Conservation Biologist, Nature Conservancy of Canada, London ON

*McKay, Vicki. August 2011. Species At Risk Recovery Specialist, Point Pelee National Park, Leamington, ON.

*Oldham, Michael. August 2011. Herpetologist/Botanist, Natural Heritage Information Centre, Peterborough, ON.

*Porchuk, Ben. August 2011. Blue Racer Recovery Team, Ecologist, London, ON.

Pratt, Paul. August 2011. Ojibway Nature Centre - City of Windsor, Windsor, ON.

Rouse, Jeremy. August 2011. Species At Risk Biologist, OMNR Midhurst, ON. (no response)

*Willson, Rob. August 2011. Co-chair, Blue Racer Recovery Team, Ecologist, Bracebridge ON.

*Woodliffe, Allen. August 2011. Blue Racer Recovery Team, OMNR District Ecologist, Aylmer District, Chatham, ON.

Sources of information:

Burbrink, F.T., F. Fontanella, R. A. Pyron, T. J. Guiher, and C. Jimenez 2008. Phylogeography across a continent: The evolutionary and demographic history of the North American racer (Serpentes: Colubridae: *Coluber constrictor*). Molecular Phylogenetics and Evolution: 47: 274-288.

COSEWIC. 2002. COSEWIC Assessment and Update Status Report on the Blue Racer *Coluber constrictor foxii*. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 17 pp. Website: http://www.sararegistry.gc.ca/ (accessed August 2011).

Crother, B.I., J. Boundy, F.T. Burbrink, J.A. Campbell, and R.A. Pyron. 2008. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico.. Edition 6.1. Society for the Study of Amphibians and Reptiles. No. 37 pp. 1-84. Web site: http://www.ssarherps.org/pages/comm_names/Coluber_main.php [accessed August 1 2011].

Ernst, C. H., and E. M. Ernst. 2003. Snakes of the United States and Canada. Smithsonian Institution Press, Washington, D. C.

Gould, Ron, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Species At Risk Biologist, OMNR Aylmer District, Aylmer, ON.

Government of Canada. 2010. Species Profile: Blue Racer. Species At Risk Public Registry. . Web site: http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=271 [accessed August 15 2010].

Hecnar, S.J. and D.R. Hecnar. 2005. Feasibility of Repatriation of Extirpated Herpetofauna to Point Pelee National Park. Final Report of Memorandum of Understanding CR02-51. Prepared for Point Pelee National Park. Department of Biology, Lakehead University. 268 pp.

Hathaway, J. 2011. *Email correspondence to S. Gillingwater.* August 2011. Director Sciensational Sssnakes!!

MacKinnon, C. A., and B. D. Porchuk. 2006. Recovery Strategy for the Blue Racer (*Coluber constrictor foxii*) in Canada (Draft). Blue Racer Recovery Team.

McFarlane, Mhairi, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Conservation Biologist, The Nature Conservancy of Canada, London ON

NatureServe, 2011. NatureServe web site. Last reviewed August 2006. http://www.natureserve.org/explorer/ [Accessed January 22, 2012].

Oldham, Michael, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Herpetologist/Botanist, Natural Heritage Information Centre, Peterborough, ON.

OMNR. 2010. The Endangered Species Act 2007. Ontario Ministry of Natural Resources. Retrieved August 4, 2011. Website: http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/STEL01_131232.html [accessed August 4 2011].

Parks Canada, 2010. Managed Area Element Status Assessment, Point Pelee National Park. Updated by Jacquie Bastick and Point Pelee National Park Staff, October 2010. Point Pelee National Park, 2pp.

Porchuk, Ben, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Blue Racer Recovery Team, Ecologist, London, ON.

Willson, Rob, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Co-chair, Blue Racer Recovery Team, Ecologist, ON.

Woodliffe, Allen, pers. comm. 2011. *Email correspondence to S.Gillingwater. August 2011.* Blue Racer Recovery Team, OMNR District Ecologist, Aylmer District, Chatham, ON.

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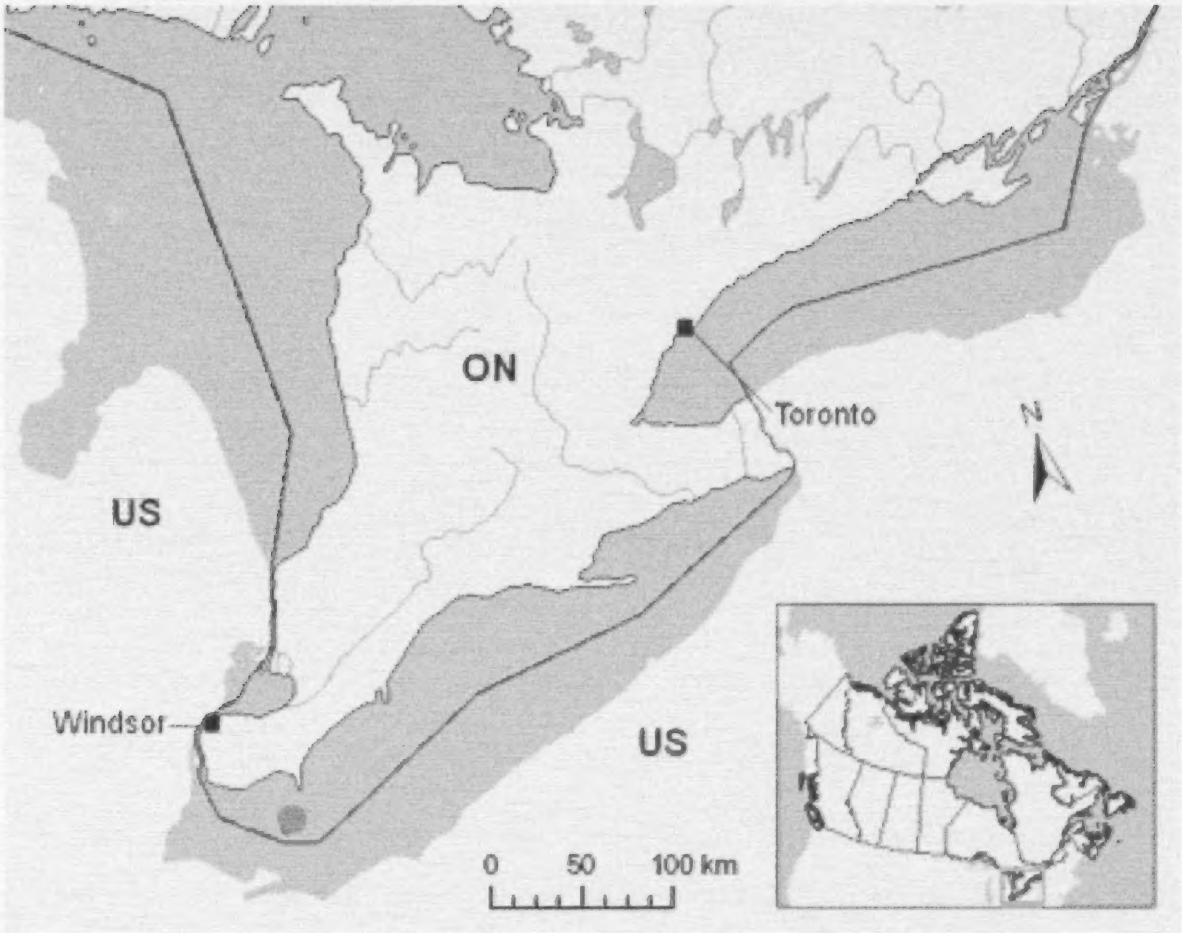

Fig. 1: Canadian distribution of the Blue Racer (SARA Registry 2010)

TECHNICAL SUMMARY

Coluber constrictor foxii
Blue Racer — Couleuvre agile bleue
Range of occurrence in Canada: Ontario

Demographic Information

Generation time	7 yrs
Is there an [observed, inferred, or projected] continuing decline in number of mature individuals?	Yes, inferred based on new threats (Wild Turkeys, succession, projected developments)
Estimated percent of continuing decline in total number of mature individuals within [5 years or 2 generations]	Unknown
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over the last [10 years, or 3 generations].	Unknown
[Projected or suspected] percent [reduction or increase] in total number of mature individuals over the next [10 years, or 3 generations].	Unknown
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over any [10 years, or 3 generations] period, over a time period including both the past and the future.	Unknown
Are the causes of the decline clearly reversible and understood and ceased?	No. They are understood, partly reversible, but not ceased
Are there extreme fluctuations in number of mature individuals?	No

Extent and Occupancy Information

Estimated extent of occurrence See text for explanation of differences in EO, IAO from previous status report	~18 km²
Index of area of occupancy (IAO) (Always report 2x2 grid value).	16 km²
Is the total population severely fragmented?	No
Number of locations* *One location is given because the presence of roads and increasing traffic affect snakes at all sites. A single event such as development of a large marina would lead to a significant increase in road traffic that would impact the snakes throughout the island.*	1
Is there an [observed, inferred, or projected] continuing decline in extent of occurrence?	No
Is there an [observed, inferred, or projected] continuing decline in index of area of occupancy?	No
Is there an [observed, inferred, or projected] continuing decline in number of populations?	No
Is there an [observed, inferred, or projected] continuing decline in number of locations*?	No

* See Definitions and Abbreviations on COSEWIC website and IUCN 2010 for more information on this term.

Is there an [observed, inferred, or projected] continuing decline in [area, extent and/or quality] of habitat? *Despite purchases of properties to maintain habitat, proliferation of road traffic, succession and increased fragmentation of habitat indicate that there will be continuing decline in extent and quality.*	Projected, observed
Are there extreme fluctuations in number of populations?	No
Are there extreme fluctuations in number of locations*?	No
Are there extreme fluctuations in extent of occurrence?	No
Are there extreme fluctuations in index of area of occupancy?	No

Number of Mature Individuals (in each population)

Population	N Mature Individuals
Total	<250 adults

Quantitative Analysis

Probability of extinction in the wild is at least [20% within 20 years or 5 generations, or 10% within 100 years].	NA

Threats (actual or imminent, to populations or habitats)

Loss and fragmentation of habitat, especially with increasing demands for economic development for tourism
Road mortality
Vegetative succession
Improperly performed prescribed burns
Introduced Wild Turkeys
Deliberate persecution

Rescue Effect (immigration from outside Canada)

Status of outside population(s). Generally the species is secure throughout its US range and it has a global status of G5 (Natureserve 2011). *Coluber c. foxii* is only ranked S4 in Indiana. This subspecies likely occurs in other jurisdictions, but taxonomic confusion makes it difficult to determine the subspecies' global distribution. At the species level, *C. constrictor* is ranked S4 or S5 in Michigan, Ohio, New York, and Pennsylvania where the *foxii* subspecies is likely to occur. *Coluber c. foxii* is ranked G5T5 and *C. constrictor* is G5 (NatureServe, 2012).

Is immigration known or possible?	Possible but unlikely
Would immigrants be adapted to survive in Canada?	Presumably
Is there sufficient habitat for immigrants in Canada?	Probably not
Is rescue from outside populations likely?	No

Current Status

COSEWIC: Designated Endangered in April 1991. Status re-examined and confirmed in May 2002 and May 2012.

* See Definitions and Abbreviations on COSEWIC website and IUCN 2010 for more information on this term.

Recommended Status and Reasons for Designation

Recommended Status: Endangered	**Alpha-numeric Code:** B1ab(iii,v)+2ab(iii,v); C2a(i,ii); D1
Reasons for Designation: This large snake has an extremely restricted distribution and in Canada occurs only on Pelee Island in southern Ontario. Despite efforts to protect dwindling habitat, it remains at low numbers. Threats include loss and fragmentation of habitat, increased road mortality and persecution.	

Applicability of Criteria

Criterion A (Decline in Total Number of Mature Individuals): Not applicable. There is no evidence to demonstrate that declines exceed 30% over the past three generations.
Criterion B (Small Distribution Range and Decline or Fluctuation): Meets Endangered B1 and B2 as EO and IAO are well below thresholds and meets subcriteria ab(iii,v) as it is found in a single location, there is a decline in extent and quality of habitat with succession and projected development for recreation, and there is a continuing decline in the number of mature individuals.
Criterion C (Small and Declining Number of Mature Individuals): Meets Endangered C2 as there is a continuing decline in numbers of mature individuals; meets C2a(i) as no population is estimated to contain >250 mature individuals, and meets C2a(ii) as one population has >95% of all mature individuals.
Criterion D (Very Small or Restricted Total Population): Meets Endangered D1 as population is estimated to have < 250 adults.
Criterion E (Quantitative Analysis): Not applicable.

Appendix 1 Sensitive Location Information

Additional Information/Sensitive Location Information

A summary of recent Pelee Island land purchases by Nature Conservancy of Canada follows:

"1. Florian Diamante Nature Reserve (FDNR) 184.5 ha, acquired 2007.

2. Middle Point Woods acquired 2010, 33.10 ha (this area includes the little block s of Middle Point/FDNR: Novatney Woods, 5.13 ha, acquired 2010).

3. Stone Road Alvar 117.4 ha + 1999, 2006, 2010.

4. Richard and Beryl Ivey property 51 ha, 2006, 2008.

5. We also own the Gibwood property in the north of the island – 14.84 ha, 2000.

NCC is restoring agricultural land on FDNR (we have restored 2 small fields, total area: 4.8 ha) by planting the seeds of island-sourced, native, herbaceous and woody vegetation. One field also has some cottonwood logs placed throughout, with snakes and other wildlife in mind. This fall, we are restoring up to 8 ha of ag land on the Richard and Beryl Ivey property. We are also in the process of eradicating Phragmites from the entire coast around Middle Point, and Garlic Mustard and Herb Robert from treed alvar on Richard and Beryl Ivey, Stone Road Alvar and Gibwood. We are also experimentally removing invasive grasses and the sod mats they create from open alvar on FDNR."

(as quoted through correspondence with Mhairi McFarlane, NCC)

COSEWIC HISTORY

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was created in 1977 as a result of a recommendation at the Federal-Provincial Wildlife Conference held in 1976. It arose from the need for a single, official, scientifically sound, national listing of wildlife species at risk. In 1978, COSEWIC designated its first species and produced its first list of Canadian species at risk. Species designated at meetings of the full committee are added to the list. On June 5, 2003, the *Species at Risk Act* (SARA) was proclaimed. SARA establishes COSEWIC as an advisory body ensuring that species will continue to be assessed under a rigorous and independent scientific process.

COSEWIC MANDATE

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species, subspecies, varieties, or other designatable units that are considered to be at risk in Canada. Designations are made on native species for the following taxonomic groups: mammals, birds, reptiles, amphibians, fishes, arthropods, molluscs, vascular plants, mosses, and lichens.

COSEWIC MEMBERSHIP

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Department of Fisheries and Oceans, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three non-government science members and the co-chairs of the species specialist subcommittees and the Aboriginal Traditional Knowledge subcommittee. The Committee meets to consider status reports on candidate species.

DEFINITIONS
(2012)

Wildlife Species	A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern (SC)*	A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)**	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)***	A category that applies when the available information is insufficient (a) to resolve a species' eligibility for assessment or (b) to permit an assessment of the species' risk of extinction.

* Formerly described as "Vulnerable" from 1990 to 1999, or "Rare" prior to 1990.

** Formerly described as "Not In Any Category", or "No Designation Required."

*** Formerly described as "Indeterminate" from 1994 to 1999 or "ISIBD" (insufficient scientific information on which to base a designation) prior to 1994. Definition of the (DD) category revised in 2006.

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The Canadian Wildlife Service, Environment Canada, provides full administrative and financial support to the COSEWIC Secretariat.